

Total No. of Questions : 10]

SEAT No. :

P3213

[Total No. of Pages : 2

**[5354]-727**  
**B.E. (Chemical)**  
**ADVANCED MATERIAL (Elective - III)**  
**(2012 Pattern)**

*Time : 2½ Hours]*

*[Max. Marks : 70*

*Instructions to the candidates:*

- 1) *Attempt Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8, Q9 or Q10.*
- 2) *Neat diagrams must be drawn wherever necessary.*
- 3) *Assume suitable data, if necessary.*

**Q1)** Explain in detail the all stempered ductile iron. **[10]**

OR

**Q2)** Explain advanced powder synthesis technique. **[10]**

**Q3)** Explain the kevlar and Nomex in detail. **[10]**

OR

**Q4)** Explain advanced ceramic materials in detail. **[10]**

**Q5)** Explain the factor influencing the properties of composite material. **[16]**

OR

**Q6)** a) Explain the industrial application of composite material. **[8]**

b) Explain fiber winding technique in detail. **[8]**

**Q7)** Give the type of rainforcement and explain in detail each type. **[16]**

**P.T.O.**

OR

- Q8)** a) Explain the mechanical behaviour and properties of metal composite. **[8]**  
b) Explain the ceramic composite in detail. **[8]**

**Q.9)** Explain the properties and fabrication method of the carbon composite. **[18]**

OR

- Q10)**a) Explain the application of carbon composite. **[9]**  
b) Explain the nanomaterial in detail. **[9]**

